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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,797

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Maurizio Galimberti

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EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

05/20/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,797	Applicant(s) GALIMBERTI ET AL.	
	Examiner Justin R. Fischer	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 78-83, 85, 86, 89-92, 101, 102 and 105-109 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 78-83, 85, 86, 89-92, 101, 102 and 105-109 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>051410</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 78-83, 85, 86, 89-92, 101, 102, and 105-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandstrom (US 6,269,858, of record) and further in view of Kondo (US 6,727,307, of record), the Admitted Prior Art (Page 17, Lines 1-12),,, Daviditz (US 3,976,598, of record) and/or Larson (US 6,858,665, of record).

Sandstrom expressly teaches a tire tread composition including at least one diene based elastomeric polymer, at least one methylene donor, and at least one methylene acceptor, wherein the disclosed loadings are consistent with those required by the claimed invention (Column 26, Lines 40+ and Tables 5+). The reference further teaches the inclusion of at least one inorganic filler, such as kaolin clay or other reinforcing or non reinforcing fillers (Column 2, Lines 35+ and Column 5, Lines 34+).

While the reference fails to expressly disclose the use of a clay having at least one exchangeable cation at an interlayer surface (such as montmorillonite clay or bentonite clay), such clays are commonly disclosed in an alternative manner with kaolin clays in similar tire tread compositions, as shown for example by Kondo (Column 9, Lines 34-37). It is emphasized that Sandstrom specifically directs one having ordinary skill to include other reinforcing fillers and kaolin clay (expressly disclosed by Sandstrom) and the claimed layered materials/clays are recognized as alternatives in the tire industry, as shown for example by Kondo. Additionally, the APA recognizes that such clays

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(betonite or montmorillonite) contain exchangeable cations at an interlayer surface
(Page 17, Lines 1-12).

As to the layer thickness, Daviditz (Column 1, Lines 64+) and/or Larson (Column 5, Lines 10-20) teach that the claimed values are consistent with montmorillonite clays. Also, the claimed loading between 1 and 50 phr, more preferably between 2 and 40, most preferably between 5 and 30 hr, is consistent with the conventional loadings for rubber additives in the tire industry and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed loadings.

Lastly, it appears that the claimed dynamic modulus is a direct function of including a methylene acceptor, a methylene donor, and a layered material in a diene based composition usable in a tire tread. This is identical to the tread composition of Sandstrom in view of Kondo and thus, one of ordinary skill in the art at the time of the invention would have expected the composition of Sandstrom to demonstrate the claimed dynamic modulus. It is particularly noted that applicant fails to define any unique processing steps and thus, it appears that the mechanical properties are directly related to the makeup of the tread composition.

Regarding claims 79 and 80, as noted above, rubber additives are conventionally included at a loading between 5 and 30 phr and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed loading.

With respect to claim 81, Daviditz teaches that montmorillonite clays are defined by layers having a thickness of about 1.0 nm.

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As to claim 83, Sandstrom teaches a loading in accordance to the claimed invention (Tables 5+).

Regarding claims 85 and 86, Sandstrom is directed to a tire tread composition and one of ordinary skill in the art at the time of the invention would have found it obvious to use said composition in any known tread arrangement, including a cap/base assembly (conventional tread design).

With respect to claims 89-92, it appears that the claimed 100% modulus is a direct function of including a methylene acceptor, a methylene donor, and a layered material in a diene based composition usable in a tire tread. This is identical to the tread composition of Sandstrom in view of Kondo and thus, one of ordinary skill in the art at the time of the invention would have expected the composition of Sandstrom to demonstrate the claimed dynamic modulus. It is particularly noted that applicant fails to define any unique processing steps and thus, it appears that the mechanical properties are directly related to the makeup of the tread composition. Lastly, it is noted that even the non inventive examples in Table 2 have mechanical properties in accordance to the claimed invention.

As to claims 105-108, Sandstrom teaches a plurality of the claimed methylene donors and acceptors (Column 2, Lines 64+).

Regarding claim 109, the method in which the methylene donor and methylene acceptor are added to the base composition does not appear to further define the structure of the claimed tire article.

Response to Arguments

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3. Applicant's arguments filed May 14, 2010 have been fully considered but they are not persuasive.

Applicant argues that kaolin clays do not comprise any of the exchangeable cations currently recited in claim 78 as an interlayer surface. The examiner agrees. However, the pending rejection involves the inclusion of betonite clay or montmorillonite clay in the tread rubber composition of Sandstrom and such clays contain said cations in view of the APA.

Applicant further contends that the distinct differences between the interlayer characteristics of kaolin and montmorillonite compounds would not motivate a skilled artisan to combine Sandstrom and Kondo. The examiner respectfully disagrees. It is emphasized that Kondo expressly suggests the alternative use of kaolin clays, betonite clays, and montmorillonite clays and thus, while differences in interlayer characteristics might exist, said differences did not prevent Kondo from suggesting the alternative use of clays with exchangeable cations and those with said cations. It is further noted that alternatives would be expected to have some differences in structure. For example carbon black and silica are conventionally disclosed as alternative reinforcing fillers and they have significantly different structures. Thus, any differences in structure between the aforementioned clays would have been contemplated prior to suggesting their alternative use in a tire rubber composition.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin R. Fischer whose telephone number is (571) 272-1215. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1791
May 18, 2010